DOCUMENT RESUME

ED 334 015 PS 019 722

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TITLE Home Schooling and Creativity.
PUB DATE Apr 91
NOTE 24p.; Paper presented at the Annual Conference of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Creativity; Elementary Secondary Education; Family Characteristics; *Home Schooling; Intelligence; *Nontraditional Education; *Parents as Teachers; *Parent Student Relationship; Peer Relationship; Personal Autonomy; *Student Evaluation; Teacher Characteristics; Teaching Methods
IDENTIFIERS Structured Activities; Torrance Tests of Creative Thinking

ABSTRACT

A nationwide sample of home-schooling parents and their children was surveyed in a study of: (1) the characteristics of home-schooling families; (2) variations in instructional approaches used by home-schooling parents; and (3) the possible relation of creativity of home-schooled children to differences in family characteristics or instructional approach used. Instructional approaches were assessed by means of the Home Schooling Instructional Survey, which was completed by the parents. The creativity of the home-schooled children was measured by means of the Torrance Tests of Creative Thinking-Figural Form A (TTCT). Significant differences in instructional approach were found in four areas: (1) goal orientation of the parents; (2) autonomy given to the children; (3) motivational orientation of parents; and (4) instructional format. The TTCT scores were positively correlated with the number of years the child had spent in conventional schools, household income, and the home teacher's age and educational level. The scores were negatively correlated with the number of years the child had been home schooled. A list of 32 references is included. (BC)

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Home Schooling and Creativity

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Presented at the American Educational Research Association Annual Conference

Chicago, Illinois, April 3-7, 1991

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Abstract

This study surveyed a nationwide sample of home-schooling parents and their children and investigated three questions: (1) What are the characteristics of the home-schooling families in this sample? (2) What variations exist in the instructional approaches used by the home-schooling parents? (3) Is the creativity of the children home-schooled in these families related to differences in the family characteristics or the instructional approach used? Instructional approaches were assessed by the Home Schooling Instructional Survey (HSIS), a self-report questionnaire developed for this study and completed by the home-schooling parent. Creativity of home-schooled children was measured by the Torrance Tests of Creative Thinking - Figural Form A (TTCT). Significant differences in instructional approach were found in four areas: goal orientation, autonomy, motivational orientation, and instructional format. TTCT scores were found to be positively correlated ($p<.05$) with the number of years the child had spent in conventional schools, household income, and the home teacher's age and educational level, but negatively correlated ($p<.05$) with the number of years the child had been home schooled.

Introduction

Within the last twenty years, a grass-roots educational movement has been developing that has the potential to affect the lives of many children throughout the United States. This movement is composed of parents who are dissatisfied with various aspects of the conventional forms of education and have decided to teach their own children at home, an educational approach called *home schooling.*

Although the number of children being home-schooled has increased dramatically in the last twenty years (Lines, 1987; Ray, 1988), home-schooling research is in its infancy, with virtually all of the studies having been completed in the past ten years, and most within the last five years. In general, the studies completed thus far have focused upon one of three primary domains: the characteristics of home-schooling families, the academic achievements of home-schooled children, or the affective development of home-schooled children. Most of the early studies of home schooling focused upon the characteristics of home-schooling families (Greene, 1984; Gustavsen, 1981; Linden, 1983). Next, due to the concerns of many public school officials, the focus shifted to academic achievement (Alaska Department of Education, 1986; Wartes, 1988; Washington State Superintendent of Public Instruction, 1985). In more recent years, studies exploring affective issues such as self-concept (Taylor, 1986) and peer interactions (Delahooke, 1986) have begun to appear.

One attribute that has frequently been associated with home-schooled children, but that has not been the subject of formal research, is *creativity.* Reports of creativity in home-schooled children can be found in the writings of both home-schooling parents and home-schooling researchers. Colfax and Colfax (1988), in describing the educational approach to home schooling that they believe enabled three of their sons to enter and

succeed at Harvard University, note that "if only by virtue of the freedom it affords, home schooling promotes creativity. It is an almost inevitable consequence of a program in which self-directed boys and girls are encouraged - and even given space - to devise their own programs, to explore, and to experiment at their own pace" (p. 48). Home schooling researchers Moore and Moore (1984) contend that home schooling fosters creativity, and that "children in [conventional] schools generally have little opportunity to develop creative, independent thinking skills" (p. 89). However, in spite of the belief of many advocates that home schooling fosters creativity, there has been no empirical data available that examines creativity within the context of home schooling. Thus, the purpose of this study was to assess the creativity of home-schooled children and investigate the relationships, if any, that existed among family characteristics, instructional approach, and children's creativity.

There are a variety of definitions of creativity and none are universally agreed upon. In general, however, attempts to define creativity can be classified as either *process* definitions or *product* definitions (Amabile, 1983). Process definitions focus upon the nature of the creative process itself, and include a variety of conceptualizations. Product definitions focus upon the creative product as the distinguishing sign of creativity. Since product definitions are more operational, they have guided most of the current research in creativity. The perspective that has been most fruitful in creativity research is that of Guilford (1956). He focused upon the concept of "divergent thinking," as contrasted with more conventional (convergent) forms of intellectual activity. According to Guilford, in convergent thinking there is a single right answer or best answer, while in divergent thinking there is not. Guilford isolated four factors within the divergent thinking domain, which he labeled originality, fluency, flexibility and elaboration.

An additional important distinction is the separation between creativity and

intelligence. Many early measures of creativity were criticized as being simply measures of IQ , but Wallach & Kogan (1965), in a series of seminal experiments, provided strong support for the position that creativity and intelligence are distinct domains. Utilizing Guilford's conceptualizations and Wallach & Kogan's distinction between creativity and IQ, Torrance (1974) developed the Torrance Tests of Creative Thinking (TTCT) to measure creativity. This conceptualization of creativity as a domain distinct from intelligence, defined as divergent thinking composed of originality, fluency, flexibility and elaboration, and measured by the TTCT, constitutes the conceptual context and operational definition for this study of creativity and home schooling.

Correlates of Creativity

The home-schooling context is complex, and there are a wide range of variables that could be legitimately investigated as being related to creativity. There is no research on creativity in the home-schooling environment, so the only relevant source of empirical data is found in research investigating children's creativity in family and school environments. This literature indicates that both family characteristics and educational environments are related to children's creativity. In a review of research on family influences in the development of children's creativity, Miller and Gerard (1979) found that parents of creative children tend to be "highly competent, both intellectually and interpersonally" and that creative children "appear to have parents who treat them with respect, have confidence in their abilities, give them responsibility with autonomy and freedom, and expect them to do well" (p.310). Amabile (1983) found that creativity in children was positively related to their degree of intrinsic motivation, and Rejskind (1982) found evidence for a relationship

between autonomy and creativity. Horwitz (1979), in a review of 33 studies on the effects of classroom environments on children's creativity, found that 12 of the studies favored "open" classroom environments, 10 showed mixed results, and 11 found no significant differences. No studies reviewed by Horwitz favored traditional classroom environments.

Since home schooling takes place outside of a structured classroom environment, one might assume that home-schooling instructional approaches are more "open," provide more autonomy, encourage more intrinsic motivation in children, and thus are more conducive to creativity. However, this assumption may not be valid. Van Galen (1987) notes that "the home schooling movement is diverse; the pedagogy created for Emile by Rousseau and that created by the writers of some home school correspondence programs that require children to do little more than fill in workbook pages for several hours each day are worlds apart, yet current research . . . has not taken such pedagogical differences into account" (p.3).

The few home-schooling studies (Reynolds, 1985; Reynolds & Williams, 1985; Schemmer, 1985) that provide information on variations in the instructional approaches used by home-schooling parents are case studies that provide rich descriptive data, but focus upon limited numbers of families. In general, the only studies that provide information about the instructional approaches used by large numbers of home-schooling families are surveys that investigated family characteristics, and included in the survey a few questions relating to the instructional approach used by the parents. Although the parental responses to these questions do not provide information about the specific creativity-related attributes mentioned previously, they do provide enough of a glimpse to suggest that some variations in instructional approach do exist, as Van Galen suggests, pointing to a need for more specific information about the extent of these differences in the home-schooling environment.

Methodology

Survey and assessment materials were mailed to a nationwide random sample of 343 home-schooling families drawn from the mailing list of Oak Meadow School, a national home-study school and supplier of home-schooling materials. Oak Meadow School incorporates a non-sectarian, artistic, experiential and developmentally-oriented approach in its programs and home-schooling curricula. The Oak Meadow mailing list includes names of home-schooling parents who have responded to advertisements placed in national home-schooling magazines representing all sectors of the home-schooling population. Using a sample of names drawn from one mailing list is a common practice among home-schooling researchers who have sampled a national population (Gladin, 1987; Gustafson, 1987; Gustavsen, 1981). The only nationwide study conducted thus far that has used more than one list (Taylor, 1986) found no significant differences in results obtained from each list. Therefore, it was assumed that the Oak Meadow list constituted a representative sample of the home-schooling population. When the results of the surveys were analyzed, however, the religious affiliation of the parents responding was significantly different from that found in other nationwide surveys, suggesting that the Oak Meadow list represented a different segment of the home-schooling population than had previously been sampled. These differences are discussed more fully in the "Results" section of this paper.

The study investigated three primary questions: (1) What are the characteristics of the home-schooling families in this sample? (2) What variations exist in the instructional approaches used by the home-schooling parents? (3) Is the creativity of the children home-

schooled in these families related to differences in the family characteristics or the instructional approach used?

Family characteristics and instructional approaches were assessed by the Home Schooling Instructional Survey (HSIS), a self-report questionnaire developed for this study and completed by the home-schooling parent. The HSIS consisted of 50 questions that assessed demographics of the family, attributes of the home teacher and the oldest child being home schooled, and eight aspects of the instructional approach used by the home teacher: autonomy, motivation, home teacher beliefs, instructional format, resources, evaluations, time usage and teacher/student interaction. An alpha coefficient (KR-20) was calculated for the HSIS, and a result of .64 was obtained, indicating a moderately reliable instrument.

The HSIS is divided into two sections: *Family Attributes* and *Instructional Attributes.* The first section of the questionnaire, *Family Attributes*, is designed to provide information about the demographics of the family, and included such questions as "Which of the following categories best describes the religious affiliation of your family?" and "Approximate total family earnings for the past fiscal year."

The second section of the survey, *Instructional Attributes*, contains questions that assess the orientation of the instructional approach used by the home-schooling parent. This section contains three subsections: *The Parent, The Child,* and *The Learning Process.* The subsection entitled *The Parent* provides information about the parent who is the primary home-schooling teacher, such as "What is your age?" and "How many years of formal education have you completed?" The next subsection, *The Child,* provided information about the child who completed the Torrance Tests of Creative Thinking (Figural Form A). This included such questions as "Child's age" and "Number of years of home schooling this child has completed." The last subsection, *The Learning Process,*

provided information about the instructional approach used by the home-schooling parent. This subsection utilized a four-part Likert-type scale ("Almost Never — Occasionally — Frequently — Almost Always") and included questions such as "Do you let your child make decisions about what subjects he/she should study?" and "Do you use external rewards to help motivate your child to learn?."

The creativity of home-schooled children was measured by the Torrance Tests of Creative Thinking - Figural Form A (TTCT). The figural form of the TTCT was chosen because it is easily administered to children of all ages, regardless of variations in verbal skills. The TTCT figural form is a pencil-and-paper measure of creativity consisting of three subtests: picture construction, picture completion, and parallel lines. The TTCT was administered by the parents and returned to the researcher for scoring and analysis. Scoring of the tests was accomplished following the guidelines in the administration manual, and required no special training. Classroom teachers who used the guidelines in the manual showed mean interrater reliabilities of .88 to .96 on subtest scores.

An important factor to consider in assessing the validity of any measure of creativity is its correlation with a measure of intelligence, since creativity measures have occasionally been criticized as simply another measure of IQ. Wallach & Kogan (1965) proposed that the most effective way to insure the construct validity of a measure of creativity is to assess the intercorrelations among the task components of the creativity measure, and the intercorrelations between these components and a measure of IQ. If the creativity measure being assessed is distinct from IQ, then there should be a high intercorrelation among the components of the measure, but a low correlation between those components and IQ. Using this approach to assess the independence of the TTCT and a measure of IQ, Torrance (1974) found correlations of .74 to .86 among the component measures (fluency, flexibility, originality and elaboration) of the TTCT and correlations of -.02 to .04 between

these measures and IQ. This provides strong support for the position that the TTCT measures a domain distinct from IQ.

According to Hudgins (1977), the TTCT represents "probably the best known effort to measure creativity" (p. 262). The TTCT has been subjected to a wide variety of validity and reliability studies. Studies of the test-retest and alternate forms reliabilities of the TTCT-Figural have ranged between .50 and .85. In a review of the TTCT, Treffinger (1985) stated that "the TTCT can be recommended as a sound example of an instrument useful for research, evaluation and general instructional planning decisions. The TTCT appears to be adequate in reliability and validity for these purposes" (p. 1634). Studies of the test-retest and alternate forms reliabilities of the TTCT-Figural have ranged between .50 and .85, and Hudgins (1977) called the TTCT "probably the best-known effort to measure creativity" (p.262).

Data from these three domains (family characteristics, instructional approaches, and creativity scores) were then correlated to determine the relationships between the creativity of the home-schooled children in this sample and the family characteristics and instructional approaches used.

Results

Response Rate

There were 176 valid responses to the original mailing, resulting in a response rate of 51.3%. According to Dillman (1978), a 50% response rate "is considered quite acceptable for mail surveys" (p. 21). Thus, it was assumed that the respondents in this study constituted a representative sample of the population of home schoolers from which

they were drawn.

Family Characteristics

The sample of parents in this study were distributed throughout the United States, with the largest percentages located in the southwest (29.7%) and the northeast (24.0%). The parents responding reported an average family size of 4.64 persons, with 60.2% of the parents reporting an annual household income of at least $30,000. The statistics on family size are consistent with the findings of Ray (1986) and Gladin (1987), but conflict with the findings of Taylor (1986), who found a slightly larger family size. The income figures, when adjusted for time, agree with the findings of Gustavsen (1981), Linden (1983), and Taylor (1986), that home schooling families earn an average, or slightly above average, household income for United States families.

In general, the family characteristics were similar to those found in other home schooling studies, with one significant difference: religious affiliation. A wide range of religious affiliations were represented, but the largest percentages of families indicated that they were "new age" (34.1%) or Christian of a "non-fundamental" nature (32.4%). Only 5.9% of the respondents considered themselves to be fundamental Christians. This distribution of religious affiliations reflects a much larger percentage of "new age" families than was found in previous studies (cf. Mayberry, 1988) and a substantially smaller percentage of fundamental Christians (cf. Gladin, 1987), indicating that this sample consisted of a different segment of the home-schooling population than has been previously investigated.

Instructional Approach

A factor analysis was performed on the Likert-scale questions in the Home

Schooling Instructional Survey, and four factors emerged as being significant aspects of the instructional approach used by the parents: the degree of goal orientation of the parents, the amount of autonomy given to the children in the learning process, the motivational orientation of the parents regarding the learning process (intrinsic or extrinsic), and the amount of structure provided.

An analysis of the distribution of the respondents on these four factors indicated a consistent pattern in the instructional approach used by the home schooling parents in this sample. A large majority of the parents fell within the "moderate" to "high" range of expression for autonomy, (93.8%), intrinsic motivation (96.0%), and unstructured format (90.9%), suggesting an approach that is flexible, provides a considerable amount of autonomy, and encourages intrinsic motivation in children. For the goal orientation factor, the pattern was reversed, with 91.5% of the parents reporting a "moderate" to "low" expression of this factor, indicating an instructional environment focused upon learning as a process, rather than a goal. These instructional factors varied in relation to several variables, including the number of children being home schooled, the prior schooling experiences of the children, the parents' motivations for home schooling, and the degree of formal involvement with a home study school.

Creativity Scores

Scores on the TTCT were calculated for the children in the sample. If more than one child was being home schooled, parents were instructed to administer the creativity test to the oldest child being home schooled. This instruction was given for two reasons. First, to simplify the data collection process and eliminate the possibility of errors, since the parent, not the researcher, was responsible for completing the HSIS and administering the TTCT. Additional HSIS and TTCT data for several children in a family would have

required a more complicated survey instrument, which would have increased the possibility of confusion among HSIS responses and TTCT scores and the integrity of the data being compromised. Second, varying the number of TTCT scores obtained from each family would have skewed the results in favor of those instructional approaches used in large families, and introduced a confound that would have made interpretation of the results difficult. The tests were hand-scored, using the instructions in the Streamlined Manual (Torrance & Ball, 1984) and the Streamlined Scoring Workbook (Ball & Torrance, 1984). The scoring procedure yielded raw scores for five categories: fluency, originality, abstractness of titles, elaboration, and resistance to premature closure. These raw scores were converted to normed scores by grade level to facilitate analysis across grade levels, and these normed scores were used in all analyses to make relative comparisons among students within this study.

Since there was no conventionally-schooled control group involved in this study, it was not possible to compare directly the scores of conventionally-schooled children with the scores of the home-schooled children in the study. However, since the normed scores of the TTCT were derived from over 34,000 conventionally-schooled children throughout the United States, a comparison with these normed scores enabled some comparison between the groups. These comparisons are summarized in Table 1.

Table 1

TTCT Sample Scores Compared With TTCT Norms

Category	Sample Scores Mean	Sample Scores SD	t-Value ($\overline{X}$=100)	
Fluency	97.08	20.60	-1.88	
Originality	106.80	23.35	3.86	*
Abstractness of Titles	124.50	28.70	11.32	*
Elaboration	101.76	18.47	1.26	
Resistance to Premature Closure	110.89	18.37	7.87	*
Global Mean	108.10	15.01	7.16	*

*$p<.01$

As Table 1 indicates, the home-schooled children in this study scored significantly higher than the norm on the global mean and three out of five of the TTCT subscales, suggesting that the home-schooled children in this study were more creative than their conventionally-schooled peers. These results should be viewed as descriptive data for this sample only, since there was no matched control group. In addition, these results should be interpreted with some caution, since the testing conditions for these home-schooled children were significantly different from those used in the conventional classrooms from which the norms for the TTCT were derived.

Correlations

Broad descriptive statistics have been provided for three components of the study:

family characteristics, instructional approach, and creativity scores. These statistics provided information to be used in answering the first two research questions concerning the characteristics of the families and the instructional approaches used. The third research question was concerned with investigating possible relationships between instructional approach and creativity scores. To answer this question, it was necessary to calculate Pearson product-moment correlations (r) between each of these categories. In calculating these r-values, the number of subjects (n) was set at 176, the number of respondents in the survey. The level of significance (alpha) was originally set at .05, but in some of the tests of significance the results exceeded the .01 level. To more accurately reflect the strength of the relationship on each significant result mentioned, I have noted the level of significance obtained.

Correlations Between Family Characteristics and TTCT Scores

There were three family characteristics variables that demonstrated a significant correlation with the TTCT scores: prior schooling experience, household income, and the home teacher attributes.

In regard to prior schooling experience, the number of years spent in a conventional school was found to be positively correlated with three subscale scores on the TTCT: fluency ($r = .28$, $p < .01$), originality ($r = .29$, $p < .01$), and elaboration ($r = .18$, $p < .05$). Conversely, the number of years spent in home schooling was negatively related to fluency ($r = -.16$, $p < .05$), originality ($r = -.17$, $p < .05$), and abstractness of titles ($r = -.25$, $p < .01$). Together, these variables suggested that higher scores on the TTCT are related to greater number of years in conventional schools and less years in home schooling. This finding was quite unexpected, and because it contradicted the claims of many home-schooling parents and researchers, it was checked for each grade level to insure that it was not a

confound arising from age differences. The results were clear and relatively consistent: for every grade level (except grade 2, which displayed a low, non-significant inverse correlation) the mean TTCT score of those children who had previously attended conventional schools was higher than the mean score of those who had not.

The second variable that was significantly correlated was household income. This was related in a positive direction to three of the TTCT subscales: fluency ($r = .19$, $p < .05$), originality ($r = .20$, $p < .01$) and elaboration ($r = .20$, $p < .01$), indicating that children who have higher scores on these subscales tend to come from families that have higher household incomes.

The third variable that demonstrated a significant correlation involved home teacher attributes, specifically the age and educational level of the home teacher. The home teacher's age was positively correlated with the children's scores on the fluency ($r = .17$, $p < .05$), originality ($r = .17$, $p < .05$) and elaboration ($r = .16$, $p < .05$) subscales. The home teacher's educational level was also positively correlated with three subscales: abstractness of titles ($r = .15$, $p < .05$), elaboration ($r = .15$, $p < .05$), and resistance to premature closure ($r = .17$, $p < .05$). Together, the correlations found in this third variable suggest that children who score more highly on the TTCT subscales tend to have parents who are older and who have higher educational levels.

Correlations Between Instructional Factors and TTCT Scores

There were very few relationships between instructional factors and children's TTCT scores, suggesting that instructional approach is not as critical as family characteristics in the creativity of home schooled children. Overall, there were only two instructional factors that were found to have significant correlations with children's TTCT scores: intrinsic motivation and goal orientation.

Intrinsic motivation demonstrated mixed correlations with TTCT scores. There was a positive correlation ($r = .15$, $p < .05$) with children's scores on the abstractness of titles subscale of the TTCT, but a negative correlation ($r = -.17$, $p < .05$) with scores on the originality subscale, indicating that parents who encouraged intrinsic motivation in their instructional approach tended to have children who created more abstract and creative titles for their drawings, while the children of parents who encouraged extrinsic motivation tended to have higher originality scores.

The abstractness of titles subscale was also involved in the second significant correlation of instructional factors and TTCT scores, a negative correlation between goal orientation and abstractness of titles ($r = -.16$, $p < .05$), indicating that children who obtained higher scores on this subscale tended to have parents who encouraged less goal orientation in their instruction.

Predictors of Creativity in Home-Schooled Children

Multiple regression techniques were used to determine the best predictive model for higher scores in each of the subscales of the TTCT and also the global mean score, using all of the instructional and demographic variables as potential predictors. The components of the best predictive model varied for each subscale of the TTCT, but several variables emerged as consistent predictors across the subscales.

Higher household income and increased number of years that the child had spent in a conventional school were the strongest overall predictors of higher TTCT scores, emerging as significant predictors in four out of five of the subscales and also on the global mean score. Increased age of the home teacher and lower children's grade levels were also strong predictors, occurring in three out of five subscales and on the global mean score.

Overall, the best predictive model for the global mean score on the TTCT consisted

of five variables and accounted for 20.3% of the variance in the global mean score. In this model, higher global mean scores were related to higher household income, increased number of years in a conventional school, lower children's grade level, increased home teacher's age, and greater number of children being home schooled. Results of this analysis are included in Table 2.

Table 2

Contributions to R^2 for the Prediction of TTCT Global Mean Score by Demographic and Instructional Variables

Variable	b	R^2	F	R^2 Increase
Household Income	1.838	.050	8.78	.050
Number of Years in a Conventional School	3.070	.089	8.04	.039
Child's Grade Level	-2.824	.151	9.72	.062
Home Teacher's Age	.665	.182	9.05	.031
Number of Children Being Home Schooled	2.625	.203	8.24	.021

Discussion

The results of this study provide considerable fuel for discussion, for they suggest

that creativity is not strongly related to variations in the home-schooling instructional approaches themselves, but to a combination of factors, both demographic and instructional, that lie *outside* the home-schooling instructional domain. These factors include such variables as household income, the age of the home teacher, and the extent to which home-schooled children have attended conventional schools in the past.

These findings, especially the significant positive correlation between conventional school attendance and TTCT scores, tend to call into question the claims of many home-schooling parents that home schooling promotes creativity, at least insofar as it is measured by the TTCT. However, the results of this study do not refute the claims of home-schooling advocates that home-schooled children are more creative than their conventionally-schooled peers. Since the home-schooled children in this sample scored significantly higher than the national norms on three out of five subscales and the global mean of the TTCT, they would indeed appear to be more creative than their peers in conventional schools. However, since the results of this study indicate that the creativity of these children is related to factors that lie outside the home schooling domain, this suggests that more creative children are found in the home-schooling environment not because home schooling *made* them that way, but because they were *already* more creative than their peers and thus they (or their parents) were attracted to the home schooling environment, presumably because of the greater opportunities for freedom and flexibility that it affords. However, since this study simply explored correlations, and was not designed to address questions of causation, conclusions about this are premature.

Due to the unexpected and somewhat counter-intuitive nature of the results, it seems prudent to consider a factor within the study that could have had a confounding effect upon the results and that needs to be considered in future studies. It is possible that the nature of the creativity assessment itself favored those students that had previously attended

conventional schools. Since conventionally-schooled children are more used to taking pencil and paper tests such as the TTCT, the home-schooled children who had previously attended conventional schools may have had an advantage over those children who didn't, and thus were able to score higher on the TTCT by virtue of this familiarity alone, regardless of their actual level of creativity. The TTCT was selected as the instrument in this study primarily because of its wide acceptance by researchers and the availability of national norms, but there are other creativity evaluations that, though not as widely recognized and having no national norms, are just as reliable as the TTCT but utilize a more informal format that may pose less of an obstacle to home-schooled children. The tasks devised by Wallach and Kogan (1965) provide one such evaluation that have proven to be quite reliable but utilize a game-like format that might be less imposing to home schooled children.

Assuming, however, that the present results do not contain an inherent bias, what elements exist in a conventional school environment that could have helped home-schooled children score higher on the TTCT? There are many ways that conventional schools differ from home schools but, in general, there are two elements that most parents would probably agree are significantly different: the number of children with whom the child interacts and the degree of structure involved. Given these differences, it would appear that increased interaction with others and a moderate degree of structure are necessary components in the development of creativity, and that an environment that offers a moderate amount of freedom within the boundaries of a clear structure and adequate opportunities for interaction with other adults and children provides the optimum context for creativity in home-schooled children.

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